



Novozymes Acrylaway®

Up to 95% less acrylamide. Easy-to-implement solution

Consumers today are increasingly concerned with health issues, with retailers pressuring food manufacturers to reduce acrylamide content in response. The EU also requires that a number of food products have below benchmark acrylamide levels.

In order to protect their brands and comply with these regulations, many food manufacturers must reduce acrylamide levels in their baked goods.

New tougher EU requirements to reduce acrylamide levels, as well as scrutiny from other regulatory authorities around the globe, are driving companies to take measures to reassure consumers that they care about their health and safety.

An effective solution is Novozymes Acrylaway®, an easy-to-use asparaginase that effectively reduces acrylamide levels in a broad range of baked goods - without affecting the taste, texture, smell or appearance of the final products.

Benefits

Up to 95% reduction

Trials carried out at Novozymes' laboratories, external institutes and on industrial scale have documented a reduction in acrylamide of up to 95%. Acrylaway® can be used in a wide variety of bakery goods and grain-based snacks, including cookies and biscuits, crackers, crisp bread and toasted bread, and dough-based snacks

Easy to implement

Acrylaway® is a processing aid that can be easily added to most production processes with few or no process modifications. It is the asparaginase with the broadest pH and temperature range, and can be optimized to suit specific processes.

Same end product

During Novozymes' trials, no differences in taste, smell, mouth feel or appearance of the final products were noted. This is because Acrylaway® removes the amino acid asparagine specifically. Other amino acids and sugars remain unaffected and continue to contribute to the Maillard reaction.

Expert support

To ensure a profitable and efficient process, Novozymes' committed Technical Service team is available to offer support and expert recommendations. Their goal is to implement a solution that's right for your process.

Broad range of applications

Acrylaway® achieves significant reduction of acrylamide in a wide range of applications. It is the asparaginase with the broadest pH and temperature range, making it flexible and easy to use in production.

Food product	Reduction in acrylamide formation
Cookies and biscuits	50-90%
Crackers	75-85%
Crisp bread and toasted bread	50-90%
Dough based snacks	Up to 95%

Fig. 1. Tests with Acrylaway® at independent institutes and in Novozymes' bakeries have shown significant reductions in acrylamide levels. The analysis of acrylamide formation was carried out at external, certified laboratories

Significant reduction of acrylamide

Fig. 2 illustrates how Acrylaway® dosage and holding time can be adjusted to achieve the desired results. The example here is in semi-sweet biscuits.

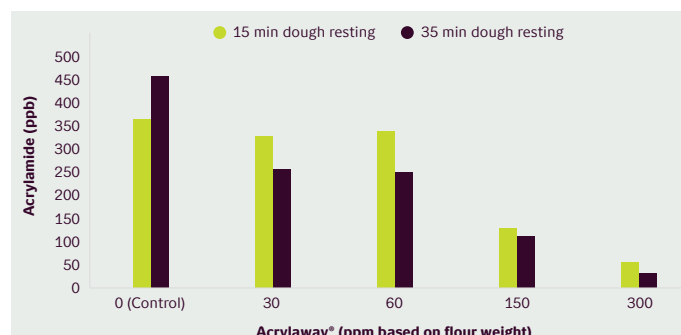


Fig. 2. Semi-sweet biscuit trials at Novozymes bakeries showed an increasing effect with enzyme dosage and holding time. A 65% reduction in acrylamide levels was achieved at 150 ppm and a holding time of 15 minutes. An 85% reduction was achieved at 300 ppm and holding time of 15 minutes.

Learn more about Acrylaway® at [novozymes.com/acrylaway](https://www.novozymes.com/acrylaway)

Get ahead

Staying ahead of the dynamic food and beverage market requires the best technology and expertise to become even more flexible, efficient and profitable. With our solutions and know-how, Novozymes can support you on that journey. Let's transform the quality and sustainability of your business together.

It's the quality that counts

Novozymes provides safe production strains, assessed and approved raw materials – under strict, controlled processes that have full traceability. We are your expert when it comes to monitoring, understanding and complying with local and global food legislation, and we continue to pursue key international food safety and quality certifications. So you and your customers can feel confident.



About Novozymes

Novozymes is the world leader in biological solutions. Together with customers, partners and the global community, we improve industrial performance while preserving the planet's resources and helping build better lives. As the world's largest provider of enzyme and microbial technologies, our bioinnovation enables higher agricultural yields, low-temperature washing, energy-efficient production, renewable fuel and many other benefits that we rely on today and in the future. We call it Rethink Tomorrow.

Novozymes Switzerland AG

Neumattweg 16
4243 Dittingen
Switzerland

Tel. +41 61 765 6111
Fax +41 61 765 6333

Novozymes A/S

Krogshoejvej 36
DK-2880 Bagsvaerd
Denmark

Tel. +45 4446 0000
foodandbeverages@novozymes.com